

CLAIMS

1. A method for removing mercury in exhaust gas, in which mercury in exhaust gas discharged from combustion equipment is removed, characterized by comprising:

5 a mercury oxidation process in which mercury in said exhaust gas is converted to mercury chloride in the presence of a catalyst;

 a contact process in which said exhaust gas is brought into contact with an absorbing solution in a scrubber to
10 absorb and remove mercury components from said exhaust gas; and

 a control process in which at least one of either blowing of air or addition of an oxidizing agent into said scrubber is accomplished, and at least one of either the
15 amount of blown air or the added amount of oxidizing agent is regulated to control the oxidation-reduction potential of said absorbing agent.

2. The method for removing mercury according to claim 1, characterized in that in said control process, at least
20 one of either a combustion equipment load or a mercury concentration at the outlet of said scrubber is detected to control the amount of blown air or the added amount of oxidizing agent.

3. The method for removing mercury according to claim
25 1 or 2, characterized in that said method further comprises

an effluent treatment process in which products in said absorbing solution are oxidized by an acid or an oxidizing agent.

4. The method for removing mercury according to claim 5 1 or 2, characterized in that said method further comprises a gas-liquid contact process in which a cleaning solution with which at least one of either air or an oxidizing agent is mixed is brought into contact with exhaust gas having been subjected to said contact process, and a second contact 10 process in which the oxidation-reduction potential of said cleaning solution is controlled.

5. A system for removing mercury in exhaust gas, in which mercury in exhaust gas discharged from combustion equipment is removed, characterized by comprising:

15 a catalyst apparatus for converting mercury in said exhaust gas to mercury chloride;

a scrubber for removing mercury components by bringing said exhaust gas into contact with an absorbing solution;

an introduction pipe, which is provided with a valve 20 for regulating the amount of blown air or the added amount of oxidizing agent, for blowing air or adding the oxidizing agent into said scrubber; and

an electrometer for measuring the oxidation-reduction potential of the absorbing agent in said scrubber.

25 6. The system for removing mercury in exhaust gas

according to claim 5, characterized in that said system further comprises means for continuously detecting at least one of a combustion equipment load and a mercury concentration at the outlet of said scrubber, and means for
5 controlling the amount of blown air or the added amount of oxidizing agent based on the detection value.

7. The system for removing mercury in exhaust gas according to claim 5 or 6, characterized in that said system further comprises a treatment tank, which is provided on the
10 downstream side of said scrubber, for oxidizing products in said absorbing solution by an acid or an oxidizing agent.

8. The system for removing mercury in exhaust gas according to claim 5 or 6, characterized in that said system further comprises a gas-liquid contact section, which is
15 provided on the downstream side of said scrubber, for bringing a cleaning solution into contact with said exhaust gas by mixing at least one of air and an oxidizing agent in a cleaning tank, and a second electrometer for measuring the oxidation-reduction potential of said cleaning solution.

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